

EXHIBIT B

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**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS**

SINGULAR COMPUTING LLC,
Plaintiff,
v.
GOOGLE LLC,
Defendant.

Civil Action No. 1:19-cv-12551 FDS

Hon. F. Dennis Saylor IV

**DEFENDANT'S RESPONSE AND OBJECTION TO PLAINTIFF'S THIRD SET OF
INTERROGATORIES (NO. 12-20)**

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Pursuant to Federal Rules of Civil Procedure 26 and 33, Defendant Google LLC (“Google”) hereby provide the following objections to Plaintiff Singular Computing LLC’s (“Singular’s”) Third Set of Interrogatories, served April 7, 2021.

OBJECTIONS TO DEFINITIONS AND INSTRUCTIONS

1. Google objects to the definition of “Defendant,” “Google,” “you,” and “your” in Singular’s Definitions as overly broad, unduly burdensome, vague, and ambiguous and because the definition seeks to expand the definition of “Google” to include all “parents, subsidiaries, divisions, branches, predecessors, or successors-in-interest, and its agents, employees, officers, directors, and attorneys.” This definition goes beyond any reasonable or commonly accepted meaning of the terms. Google shall interpret this definition as only requiring Google to search for information in Google’s possession, custody, or control and obtainable from a reasonable number of Google employees who Google reasonably believes might have information relevant to the claims and defenses at issue in this litigation.

2. Google objects to the definition of “Accused Products” on the grounds that it is broader than or otherwise different from that disclosed in Singular’s Infringement Contentions pursuant to Patent Local Rule 16.6(d)(1)(A).

3. Google objects to Singular’s Definition No. 11 insofar as it purports to impose obligations beyond those required by the Federal Rules of Civil Procedure, the Local Rules, or the Court’s orders in this action.

4. Google objects to each request on the grounds and to the extent that it calls for information related to Google’s damages theories in this case, given that Singular has not yet provided adequate damages disclosures pursuant to Rule 26(a)(1)(A)(iii), or proper responses to Google’s Interrogatory No. 5, which seeks information about the facts underpinning Singular’s

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damages claims. Singular's continued failure to provide such information or disclosures is improper and prejudices Google's ability to adequately respond to Singular's damages-related discovery requests and prepare for trial in this matter. *See* Google's 5/4/21 Letter to Singular. Google further objects to each interrogatory that improperly and prematurely seeks discovery regarding expert opinions and analyses prior to the date ordered by the Court.

5. Google objects to each interrogatory on the grounds that it seeks information protected from disclosure by the attorney-client privilege, attorney work product doctrine, or any other applicable privilege or immunity. Google claims such privileges and protections to the extent implicated by each interrogatory and will exclude privileged or protected information from its responses. Any disclosure of such information is inadvertent and not intended to waive those privileges or protections.

6. Google objects to each interrogatory to the extent that it seeks information that is not within Google's possession, custody or control. In making objections to any and all requests, Google does not indicate that any responsive information, documents or things exist within the ownership, possession, custody or control of Google.

Google's objections and responses to these interrogatories are not intended to waive or prejudice any objections Google may assert now or in the future, including, without limitation, objections as to the relevance of the subject matter of any request, or as to the admissibility of any information or category of information at trial or in any other proceedings. Google expressly reserves any and all rights and privileges under the Federal Rules of Civil Procedure, the Federal Rules of Evidence, the Local Rules, and any other applicable laws or rules. The disclosure of any information in response to these interrogatories is not an indication of its relevance or admissibility.

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Without limiting these objections in any way, Google makes specific objections and responds to Singular's Third Set of Interrogatories as follows:

RESPONSES TO INTERROGATORIES**INTERROGATORY NO. 12:**

Identify and describe the layout, physical structure, and contents of each of the data centers referenced in Paragraph 26 of Google LLC's Amended Answer and Affirmative Defenses to Plaintiff Singular Computing LLC's Amended Complaint (ECF No. 57). If there are additional Google data centers that make use of any of the Accused Products and that are not referenced in the above documents, identify and describe the layout, physical structure, and contents of these data centers as well. Your answer should include an identification of all relevant documents, and the identity of the person(s) most knowledgeable.

RESPONSE TO INTERROGATORY NO. 12:

In addition to the above Objections to Definitions and Instructions, incorporated herein by reference, Google specifically objects to this interrogatory on the grounds that: (1) it seeks information related to the use of the Accused Products outside of the United States and thus is not reasonably limited to the jurisdictional reach of the United States' patent laws; (2) it is premature, as Singular has not adequately disclosed any theory of liability or damages—or provided any information about such a theory—that makes the requested information relevant to any party's claim or defense or proportional to the needs of the case (*see* Google's 5/4 Letter to Singular); (3) it is overbroad and unduly burdensome because (i) it purports to require Google to detail the "layout, physical structure, and contents" for multiple complex facilities containing hardware and equipment that is not at issue in this action, and to identify all documents and persons with knowledge relevant to the same, (ii) it seeks information about "Larger compute systems . . . such as TPU Pods," which are broader than or different from the products identified

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in Singular's Infringement Contentions, and (iii) it is unlimited as to time; and (4) it is vague and ambiguous as to the phrase "make use of any of the Accused Products," as "make use" is capable of multiple reasonable meanings as used herein, and "Accused Products" is defined to include "Larger compute systems," which has no discernible meaning in this context.

Subject to and without waiving the foregoing objections, Google responds as follows: Google is willing to meet and confer regarding the appropriate scope of this request, if any.

INTERROGATORY NO. 13:

Identify the cost to design, build, and operate each of the data centers referenced in Paragraph 26 of Google LLC's Amended Answer and Affirmative Defenses to Plaintiff Singular Computing LLC's Amended Complaint (ECF No. 57), and any other data centers that contain or utilize any of the Accused Products. Your answer should include an identification of all relevant documents, and the identity of the person(s) most knowledgeable.

RESPONSE TO INTERROGATORY NO. 13:

In addition to the above Objections to Definitions and Instructions, incorporated herein by reference, Google specifically objects to this interrogatory on the following grounds: (1) it seeks information related to the use of the Accused Products outside of the United States and thus is not reasonably limited to the jurisdictional reach of the United States' patent laws; (2) it is premature, as Singular has not adequately disclosed any theory of liability or damages—or provided any information about such a theory—that makes the requested information relevant to any party's claim or defense or proportional to the needs of the case (*see* Google's 5/4 Letter to Singular); (3) it is overbroad and unduly burdensome because (i) it purports to require Google to detail the "cost to design, build, and operate each of the data centers," which are complex facilities containing hardware and equipment that is not at issue in this action, and identify all documents and persons with knowledge relevant to the same, (ii) it seeks information about

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“Larger compute systems . . . such as TPU Pods,” which are broader than or different from the products identified in Singular’s Infringement Contentions, and (iii) it is unlimited as to time; (4) the request is vague and ambiguous as to the phrase “utilize any of the Accused Products” as “utilize” is capable of multiple reasonable meanings as used herein, and “Accused Products” is defined to include “Larger compute systems,” which has no discernible meaning in this context; and (5) it is vague and ambiguous in its use of the phrase “the cost to design, build, and operate each of the data centers,” because it fails to specify which among the extraordinary number of itemized costs incurred in the design, construction, and operation of data centers are at issue, or what type of cost is responsive (e.g., direct, indirect, fixed, variable, etc.); to the extent the request seeks discovery into *all* costs, it is overbroad and unduly burdensome because it seeks detailed, sensitive financial data insufficiently linked to any cognizable theory of damages, but rather mere speculation and conclusory assertions.

Subject to and without waiving the foregoing objections, Google responds as follows: Google is willing to meet and confer regarding the appropriate scope of this request, if any.

INTERROGATORY NO. 14:

Identify and describe the amount of any costs or expenses incurred or investments made by You in producing, creating, developing, or otherwise commercializing the Accused Products, and identify and describe any anticipated or actual return on these investments or expenditures in terms of market share, sales, brand recognition, revenues, profits, customers, or other business objectives, including any projections or forecasts of the same.

RESPONSE TO INTERROGATORY NO. 14:

In addition to the above Objections to Definitions and Instructions, incorporated herein by reference, Google specifically objects to this interrogatory on the following grounds: (1) it seeks information related to the use of the accused products outside of the United States and thus

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is not reasonably limited to the jurisdictional reach of the United States' patent laws; (2) it is premature, as Singular has not adequately disclosed any theory of liability or damages—or provided any information about such a theory—that makes the requested information relevant to any party's claim or defense or proportional to the needs of the case (*see Google's 5/4 Letter to Singular*); (3) it is overbroad and unduly burdensome because (i) it purports to require Google to detail the “*any costs or expenses incurred or investments made*” in connection with the Accused Products and “*any anticipated or actual return*” on the same, regardless of any relation to the claimed invention or the products identified in Singular's Infringement Contentions; (ii) it seeks information about “Larger compute systems . . . such as TPU Pods,” which are broader than or different from the products identified in Singular's Infringement Contentions; and (iii) it is unlimited as to time; (4) the request is vague and ambiguous as to the terms “otherwise commercializing” and “Larger compute systems,” as those terms have no discernible meaning in this context; (5) it contains multiple discrete subparts and is therefore compound and should be counted as at least 10 or more separate interrogatories; and (6) it seeks the disclosure of expert analyses and opinions prior to the date ordered by the Court.

Subject to and without waiving the foregoing objections, Google responds as follows: Google is willing to meet and confer regarding the appropriate scope of this request, if any.

INTERROGATORY NO. 15:

Identify every product, service, system, and method of or from a third party, including the identity of each said third party, that You have used in any way in connection with the design, development, implementation, testing, management, and operation of the Accused Products.

RESPONSE TO INTERROGATORY NO. 15:

In addition to the above Objections to Definitions and Instructions, incorporated herein by reference, Google specifically objects to this interrogatory on the following grounds: (1) it

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seeks information related to the use of the Accused Products outside of the United States and thus is not reasonably limited to the jurisdictional reach of the United States' patent laws; (2) it seeks information that is neither relevant to any party's claims or defenses nor proportional to the needs of the case, including because it seeks discovery into products and capabilities that are neither accused nor identified in Singular's Infringement Contentions; (3) it is overbroad and unduly burdensome because (i) it purports to require Google to identify "every product, service, system, and method of or from a third party" used with the Accused Products "in *any* way," including in connection with functionalities and capabilities that are not at issue in this action, (ii) it seeks information about "Larger compute systems . . . such as TPU Pods," which are broader than or different from the products identified in Singular's Infringement Contentions, and (iii) it is unlimited as to time; (4) the request seeks information that is not within Google's possession, custody or control; (5) the request is vague and ambiguous in its use of "implementation . . . of the Accused Products," which is capable of multiple reasonable interpretations, and "Larger compute systems," which has no discernible meaning in this context; and (6) the request seeks proprietary, trade secret or other confidential or competitively sensitive information of third parties.

Subject to and without waiving the foregoing objections, Google responds as follows: Google is willing to meet and confer regarding the appropriate scope of this request, if any.

INTERROGATORY NO. 16:

Identify any products or processes that You contend are acceptable non-infringing alternatives to the Accused Products, describing specifically:

- a. The nature of each alleged non-infringing alternative;

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- b. Which claim elements You contend are absent from each alleged non-infringing alternative and Your reasons and bases for contending such claim elements are absent;
- c. The reasons and bases for Your contention that each alleged non-infringing alternative was an acceptable non-infringing alternative;
- d. The date you contend the alleged non-infringing alternative was available to you and the reasons and bases for your contentions;
- e. The time you contend would be associated with the development of the alleged non-infringing alternative and the reasons and bases for your contention;
- f. The cost you contend would be associated with implementing the alleged non-infringing alternative and the reasons and bases for your contention;
- g. The identify of any product, service, or other commercially available application, whether made by you or any other party, than contains the alleged non-infringing alternative; and
- h. The reasons you did not incorporate or implement the alleged non-infringing alternative.

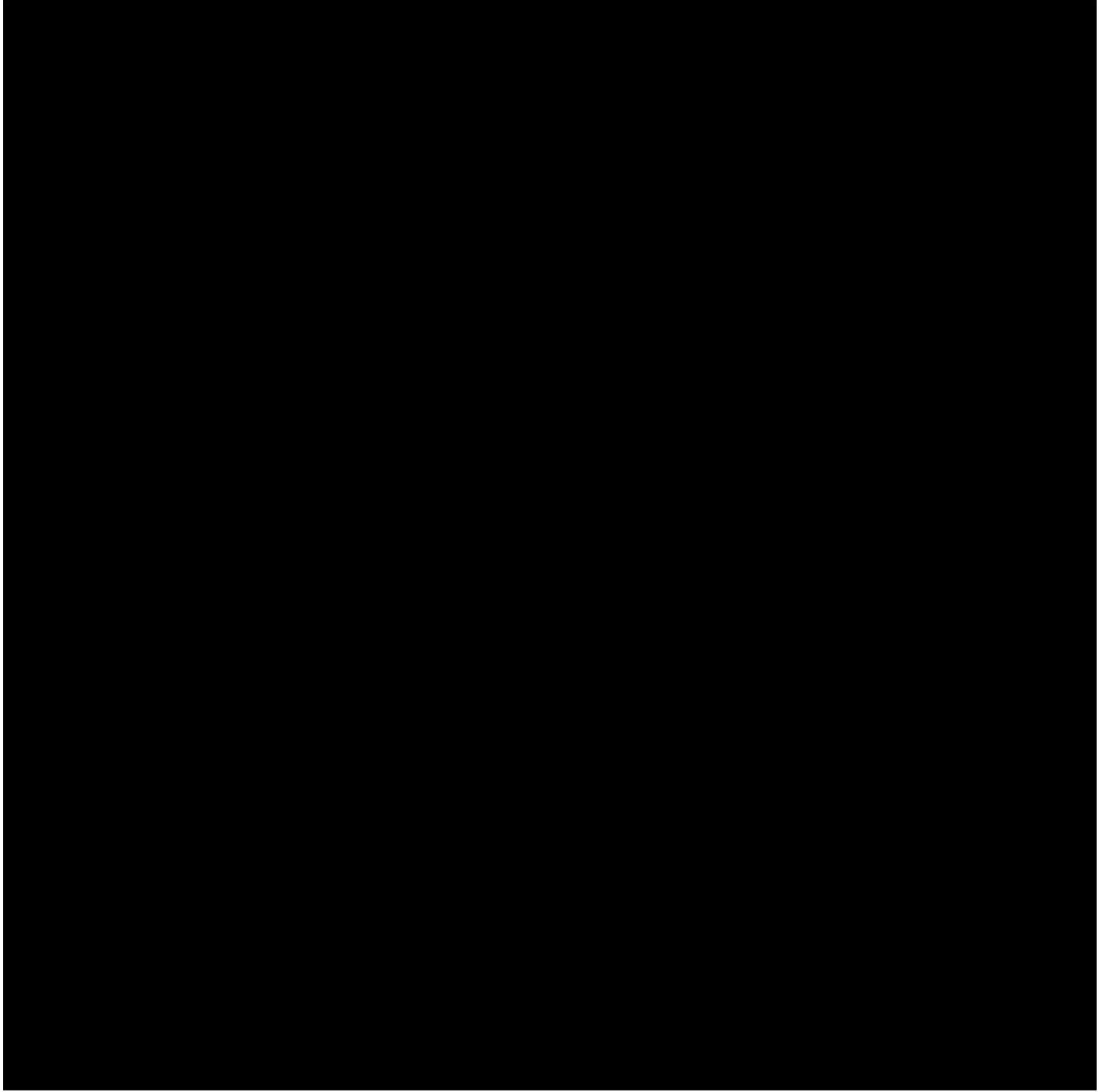
RESPONSE TO INTERROGATORY NO. 16:

In addition to the above Objections to Definitions and Instructions, incorporated herein by reference, Google specifically objects to this interrogatory on the following grounds: (1) it prematurely seeks the disclosure of expert analyses and opinions prior to the date ordered by the Court; (2) it is overbroad and unduly burdensome because it purports to require Google to describe in detail all aspects regarding non-infringing alternatives to the “Accused Products,” which are broader than or different from the products identified in Singular’s Infringement Contentions; (3) it is premature, as Singular has not adequately disclosed any theory of liability

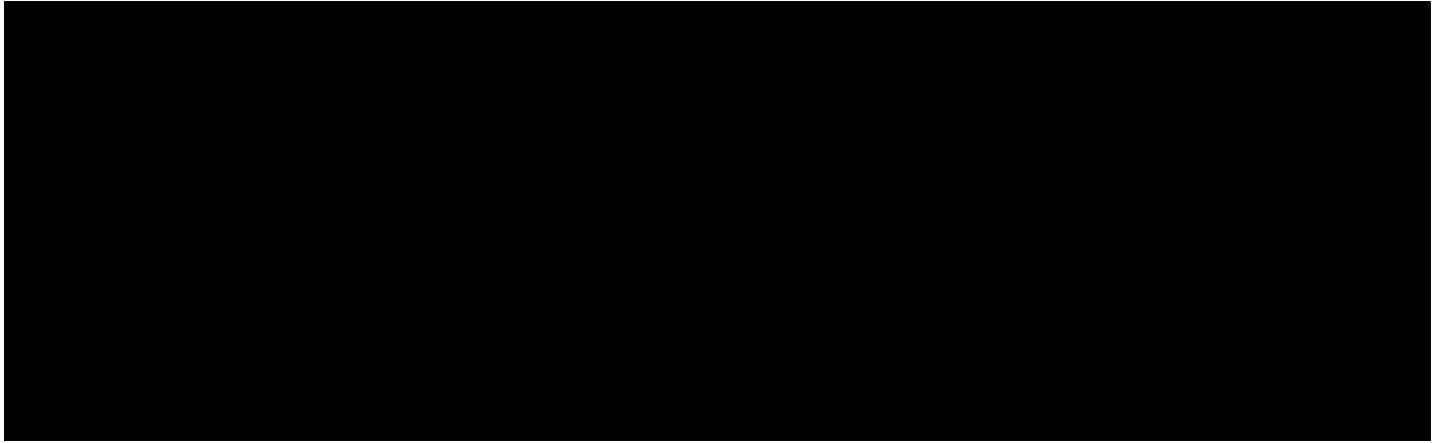
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or damages—or provided any information about such a theory—that would inform Google as to whether any so-called “acceptable non-infringing alternatives” would be relevant to the case (*see* Google’s 5/4 Letter to Singular); and (4) it is compound insofar as it consists of multiple discrete subparts and should therefore be counted as at least nine different interrogatories.

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INTERROGATORY NO. 17:

Identify any competing products, services, applications, or tools that You believe provide or enable functionalities similar to those identified in Plaintiff's Infringement Contentions, including but not limited to the ability to perform training and/or inference on neural models.

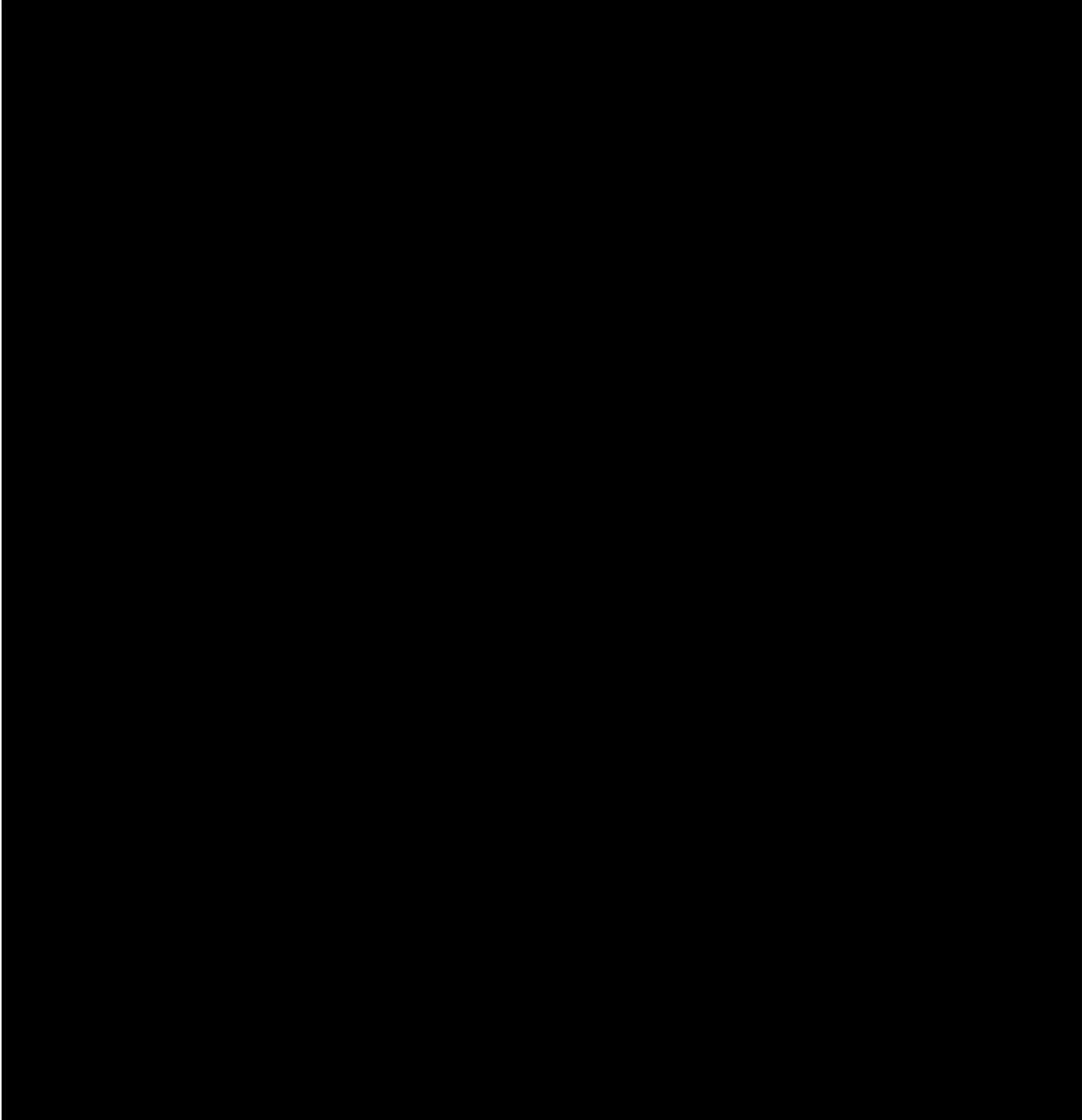
RESPONSE TO INTERROGATORY NO. 17:

In addition to the above Objections to Definitions and Instructions, incorporated herein by reference, Google specifically objects to this interrogatory on the following grounds: (1) it prematurely seeks the disclosure of expert analyses and opinions prior to the date ordered by the Court; (2) it seeks information that is neither relevant to any party's claims or defenses nor proportional to the needs of the case, because, among other things, it seeks discovery related to products and capabilities that are neither accused nor identified in Singular's Infringement Contentions, including products performing machine learning inference functions—as a result, Google's response does not identify competing products, services, applications, or tools that perform those processes; (3) it is overbroad and unduly burdensome because it is unlimited as to time, and because it purports to require Google to detail “*any* competing products, services, applications, or tools” that “provide or enable functionalities *similar to*” those identified in Plaintiff's Infringement Contentions, including products and capabilities not at issue in this

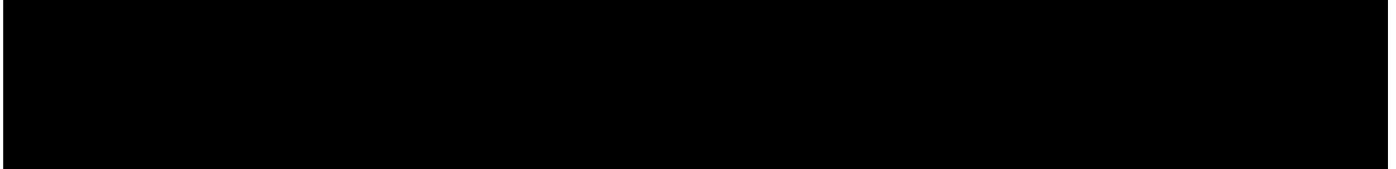
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action; and (4) it is vague and ambiguous as to the phrase “functionalities similar to those identified in Plaintiff’s Infringement Contentions,” which themselves are vague, inadequate, and provide an insufficient basis to make such a comparison.

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INTERROGATORY NO. 18:

Describe the identity, content, and interpretation of all licenses, technology agreements, authorizations to use, or other such transfer of rights agreements, including but not limited to patent and/or software licenses:

- a. That you have produced or identified in this case;
- b. That pertain to technology similar (in part or in full) to the Patents-in-suit; or
- c. That you contend are comparable to a license that you would have taken in a hypothetical negotiation in this Case.

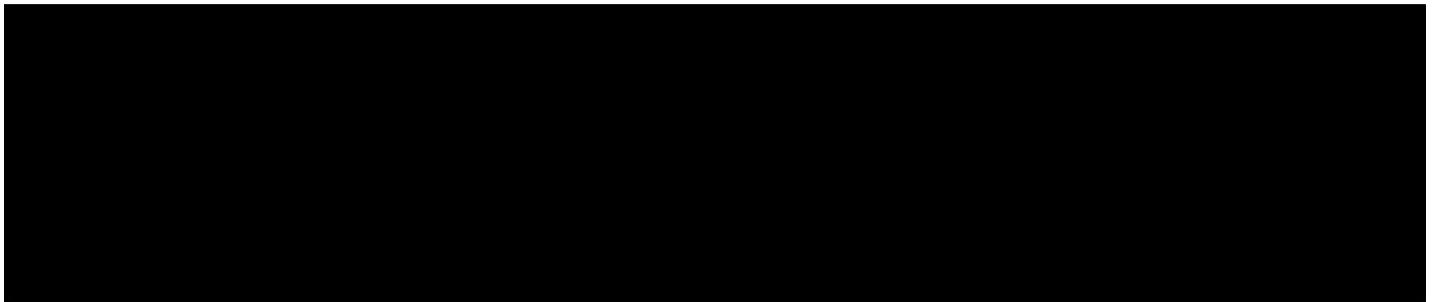
To guide you in your response, your answer should disclose, for each such license, at least the following information: (i) the names of all parties; (ii) the royalty rate; (iii) the royalty base; (iv) the term; (v) all license fees (e.g. technology access fees); (vi) the technology at issue; (vii) the patent numbers for each patent covered by the license; (viii) the total amount of money paid under the license; (ix) whether the license was paid as a lump-sum or as a running royalty; (x) whether it was assumed that the patents were infringed and valid; and (xi) whether there were cross-licenses for any patents and, if so, how each cross-license impacted items (ii), (iii), (v), (viii). Your description must also include all grounds for your contention that the license is comparable to what the parties would have agreed to in the hypothetical negotiation in this case.

RESPONSE TO INTERROGATORY NO. 18:

In addition to the above Objections to Definitions and Instructions, incorporated herein by reference, Google specifically objects to this interrogatory on the following grounds: (1) it

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seeks the disclosure of expert analyses and opinions prior to the date ordered by the Court; (2) it is premature, as Singular has not adequately disclosed any theory of liability or damages—or provided any information about such a theory—that makes the requested information relevant to any party’s claims or defenses or proportional to the needs of the case (*see* Google’s 5/4 Letter to Singular); (3) it is overbroad and unduly burdensome because it purports to require Google to detail “*all* licenses” and similar agreements that “pertain to technology *similar*” to the patents-in-suit, and to provide specific details about eleven separate categories of information, many of which are not related to any such agreements; (4) it seeks information that is not within Google’s possession, custody or control and/or seeks the proprietary, trade secret or other confidential or competitively sensitive information of third parties; (5) it is vague and ambiguous as to the phrase “pertains to technology similar (in part or in full)” to the claimed invention, which has no discernable scope as used in this context; and (6) it is compound insofar as it contains multiple discrete subparts and therefore should be counted as at least a dozen separate interrogatories.

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Identify and describe any analysis or calculations of financial benefits of any kind, (including gross and net revenue and profits, return on investment, cost savings, customer retention and/or any other benefits) conducted by or for You, relating to implementing each of the functionalities identified in Plaintiff’s Infringement Contentions, including but not limited to:

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(i) the use of the BF16 number format within the TPU; (ii) the use of the MXU for matrix multiplication within the MXU; (iii) the use of the Core Sequencer within the TPU; (vi) the use of the VPU within the TPU. Your answer should disclose, in particular, any analysis or calculations of financial benefits of any kind that relate to comparisons between the use of the BF16 number format and the use of alternative number formats, including but not limited to FP32 and int8. Your answer should further disclose any analysis or calculations of financial benefits of any kind that relate to comparisons between the use of the Accused Products for training and/or inference and (i) the use of the Google TPU v1 for training and/or inference; and (ii) the use of other products for training and/or inference, including but not limited to CPUs and GPUs. Further, identify every person who participated in or conducted such analysis identified above.

RESPONSE TO INTERROGATORY NO. 19:

In addition to the above Objections to Definitions and Instructions, incorporated herein by reference, Google specifically objects to this interrogatory on the following grounds: (1) it seeks the disclosure of expert analyses and opinions prior to the date ordered by the Court; (2) it is premature, as Singular has not adequately disclosed any theory of liability or damages—or provided any information about such a theory—that makes the requested information relevant to any party’s claim or defense or proportional to the needs of the case (*see* Google’s 5/4 Letter to Singular); (3) it seeks detailed, sensitive financial information about products and operations that are neither accused nor at issue in this case, and which is therefore insufficiently linked to any cognizable theory of damages; (4) it is overbroad and unduly burdensome because it purports to require Google to detail “*any* analysis or calculations of financial benefits of *any* kind . . . relating to implementing each of the functionalities identified in Plaintiff’s Infringement Contentions,” which includes hardware, software, and operations that are not at issue in this

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action, and requires Google to identify all documents and persons with knowledge relevant to the same; (5) it is vague and ambiguous as to the phrases “relating to implementing,” which is confusing and unbounded in scope as used herein, as well as to the phrase “the use of the MXU . . . within the MXU,” which has no discernible meaning in this context; and (6) it is compound insofar as it contains multiple discrete subparts and therefore consists of at least eight separate interrogatories.

Subject to and without waiving the foregoing objections, Google responds as follows: Google is willing to meet and confer regarding the appropriate scope of this request, if any.

INTERROGATORY NO. 20:

Identify and describe any surveys or other customer analyses, prepared by You that identify or sought to identify customer preference information, desired features, or any other information related to the functionalities identified in Plaintiff’s Infringement Contentions, including but not limited to: (i) the use of the BF16 number format within the TPU; (ii) the use of the MXU for matrix multiplication within the MXU; (iii) the use of the Core Sequencer within the TPU; (vi) the use of the VPU within the TPU. Your answer should disclose, in particular, any surveys or other customer analyses, prepared by You that identify or sought to identify customer preference information, desired features, or any other information that relate to comparisons between the use of the BF16 number format and the use of alternative number formats, including but not limited to FP32 and int8. Your answer should further disclose any surveys or other customer analyses, prepared by You that identify or sought to identify customer preference information, desired features, or any other information that relate to comparisons between the use of the Accused Products for training and/or inference and (i) the use of the Google TPU v1 for training and/or inference; and (ii) the use of other products for training and/or inference,

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including but not limited to CPUs and GPUs. Further, identify every person who participated in or conducted such analysis identified above.

RESPONSE TO INTERROGATORY NO. 20:

In addition to the above Objections to Definitions and Instructions, incorporated herein by reference, Google specifically objects to this interrogatory on the following grounds: (1) it seeks the disclosure of expert analyses and opinions prior to the date ordered by the Court; (2) it is premature, as Singular has not adequately disclosed any theory of liability or damages—or provided any information about such a theory—that makes the requested information relevant to any party’s claim or defense or proportional to the needs of the case (*see* Google’s 5/4 Letter to Singular); (3) it seeks information that is neither relevant to any party’s claims or defenses nor proportional to the needs of the case, insofar as it seeks detailed, voluminous responses regarding products and operations that are neither accused nor at issue in this case; (4) it is overbroad and unduly burdensome because it purports to require Google to describe in detail “*any* surveys or other customer analyses . . . that identify or sought to identify customer preference information, desired features, or any other information *related to* the functionalities identified in Plaintiff’s Infringement Contentions,” which includes hardware, software, and operations that are not at issue in this action, and because it purports to require Google to identify all documents and persons with knowledge relevant to the same; (6) it is vague and ambiguous as to the phrase “information related to the functionalities” which is confusing and unbounded in scope, and the phrase “the use of the MXU . . . within the MXU,” which has no discernible meaning as used herein; and (7) it is compound insofar as it contains multiple discrete subparts and therefore should be counted as at least seven separate interrogatories.

Subject to and without waiving the foregoing objections, Google responds as follows: Google is willing to meet and confer regarding the appropriate scope of this request, if any.

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Dated: May 7, 2021

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PROOF OF SERVICE

I am employed in the City and County of San Francisco, State of California in the office of a member of the bar of this court at whose direction the following service was made. I am over the age of eighteen years and not a party to the within action. My business address is Keker, Van Nest & Peters LLP, 633 Battery Street, San Francisco, CA 94111-1809.

On **May 7, 2021**, I served the following document(s):

- **DEFENDANT'S RESPONSE AND OBJECTION TO PLAINTIFF'S THIRD SET OF INTERROGATORIES (NO. 12-20)**

- by **E-MAIL VIA PDF FILE**, by transmitting on this date via e-mail a true and correct copy scanned into an electronic file in Adobe "pdf" format. The transmission was reported as complete and without error.

Counsel for Plaintiff Singular Computing LLC

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Executed on **May 7, 2021**, at San Francisco, California. I declare under penalty of perjury that the foregoing is true and correct.



Alisa Thompson